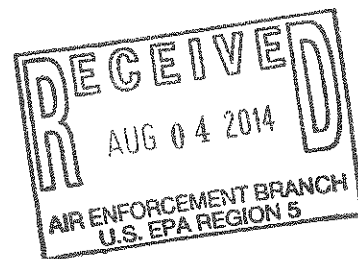


# 2014 ELP COMPLIANCE STATUS REPORT

Consent Decree No. 1:11-cv-13330-TLL-CEB

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38	XOMOX/TUFLINE





**The Dow Chemical Company**  
Midland, Michigan 48674  
USA

July 31, 2014

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EPA Region 5  
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77 West Jackson Blvd. (C-14J)  
Chicago, IL 60604

**Consent Decree No. 1:11-cv-13330-TLL-CEB: 2014 ELP Compliance Status Report**

Enclosed is the 2014 ELP Compliance Status Report from The Dow Chemical Company ("Dow"), as required by Section VI. of Consent Decree No. 1:11-cv-13330-TLL-CEB.

If you have any questions regarding this report, please contact Brad Kischnick at 989-638-9602 or email [Kischnick@dow.com](mailto:Kischnick@dow.com).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Shari Kennett  
Michigan Operations Responsible Care Leader  
1790 Building, Washington Street  
Midland, MI 48674  
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Electronic copies only without attachments:  
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# ELP Compliance Status Report

Reporting Period Required by ELP Section VI		July 1, 2013 - June 30, 2014	
Citation	Reporting Requirement		
VI.53.a	LDAR Personnel		
	Report how many LDAR Personnel are at the Facility (excluding Personnel whose functions involve the non monitoring aspects of repairing leaks)?	76	
	For each LDAR personnel what is the approximate percentage of time each such person dedicated to performing his/her LDAR function?		
	Role	Number of Employees in that Role	
	% of Time for Each Employee		
	Supervisor	1	100
	Inspection and Inventory Technician	3	100
	Project Technician	1	100
	Data Manager	1	100
	On-Call Monitoring Personnel	7	5
	Method 21 Assessor	1	10
	Audit Expertise	3	10
	Operations Personnel	43	<5
	Facility LDAR Program Contact	5	25
	Plant Technical Staff	11	5

# ELP Compliance Status Report

VI.53.b

An identification and description of any non compliance with the requirements of Section V (Compliance Requirements);

Covered Process Unit	Requirement Identification (citation & requirement summary)	Description of Non Compliance condition and associated corrective action
Low Gloss ABS Unit	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.C.15.a.	<p><b>Description of Non-Compliance:</b> Third quarter fugitive monitoring was missed for one valve subject to the fugitive monitoring program. The valve had been removed from the LDAR program due to a miscommunication. This was previously reported in the March 2014 Title V submittal for Styron, LLC.</p> <p><b>Corrective Action:</b> Immediately upon discovery, the monitoring technician added the valve back to the LDAR program and monitored the valve via Method 21. No leak was identified, therefore no excess emissions resulted. In addition, Dow has updated the fugitive management of change work process for removal of LDAR components to ensure components are not removed from fugitive monitoring routes by the fugitive contractor prior to obtaining facility approval and updating the LDAR database.</p>

# ELP Compliance Status Report

	Covered Process Unit	Requirement Identification (citation & requirement summary)	Description of Non Compliance condition and associated corrective action
	Low Gloss ABS Unit and Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.A.13	<p><b>Description of Non-Compliance:</b> For equipment subject to the fugitive leak requirements of various MACT standards, changes in fugitive equipment leak method of compliance (e.g., from single mechanical seal to dual mechanical seal) and monitoring frequency (e.g., from quarterly to semi-annual) were not being specifically reported in the periodic report. This deviation was discovered during an audit in a different process unit, but was corrected sitewide. This was previously reported in the March 2014 Title V submittal for Michigan Operations and Styron, LLC.</p> <p><b>Corrective Action:</b> Instructions on how to complete the periodic report were updated to include additional information on this requirement. A work process document was implemented to identify when equipment monitoring frequency has changed based on information in the fugitive database. Changes were noted in the periodic report and an updated NOCS will be prepared and submitted in the next periodic report.</p>
	Low Gloss ABS Unit	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.G.32.b.	<p><b>Description of Non-Compliance:</b> Two occurrences of replacing valves later than the date specified in paragraph V.G.32.b. See VI.53.b Attachment 1 for details.</p> <p><b>Corrective Action:</b> Valve improvement program guidance documents were created and training was enhanced. Additional valve improvement tracking methods are being evaluated.</p>

# ELP Compliance Status Report

Covered Process Unit	Requirement Identification (citation & requirement summary)	Description of Non Compliance condition and associated corrective action
Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.A.13.	<p><b>Description of Non-Compliance:</b> The unload compressor at Ethocel is designated as no detectable emissions (NDE). The monitoring requirement is annual and any reading over 500 ppmv is considered a reportable leak. On 7/9/2013 a leak was found at &gt; 500 ppmv. This deviation was previously reported in the March 2014 Title V submittal for Michigan Operations.</p> <p><b>Corrective Action:</b> Immediate corrective action was taken to repair and remonitor the unload compressor. The repair was validated per Method 21 to demonstrate that emissions were less than 500 parts per million by volume above background. In addition, the compressor has been fitted with a nitrogen purge that will convey any fugitive emissions through a closed vent system to a control device.</p>
Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.A.13.	<p><b>Description of Non-Compliance:</b> Dual mechanical seal pumps and dual mechanical seal agitators subject to equipment leak provisions under various MACT rules did not have documentation of the design criteria and an explanation for the design criteria. This deviation was discovered during an audit in a different process unit, but was corrected site-wide. This deviation was previously reported in the March 2014 Title V submittal for Michigan Operations.</p> <p><b>Corrective Action:</b> The required documentation has been created and training was provided.</p>

## ELP Compliance Status Report

ELP Compliance Status Report			
	Covered Process Unit	Requirement Identification (citation & requirement summary)	Description of Non Compliance condition and associated corrective action
	Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.C.15	<u>Description of Non-Compliance:</u> Five connectors and one OELCD associated with the rail car unloading flex hose line were discovered to be missing from the fugitive emissions monitoring program. This deviation was discovered during an audit in a different process unit, but was corrected sitewide. This deviation was previously reported in the March 2014 Title V submittal for Michigan Operations.  <u>Corrective Action:</u> Immediately upon discovery, applicable equipment was added to the LDAR program and monitored via Method 21. There were no leaks.

# ELP Compliance Status Report

ELP Compliance Status Report		
Covered Process Unit	Requirement Identification (citation & requirement summary)	Description of Non Compliance condition and associated corrective action
Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.A.13.	<p><b>Description of Non-Compliance:</b> Sixteen sampling connection systems in &gt; 5% HAP service were not uniquely identified as LDAR applicable equipment. However, the connectors and valves associated with the sampling connection systems are uniquely identified and are included in the LDAR program. This deviation was discovered during an audit in a different process unit, but was corrected sitewide.</p> <p><b>Corrective Action:</b> Created list that contains all LDAR applicable sampling connection systems.</p>
Ethocel™ cellulose ethers	<u>Consent Decree No. 1:11-cv-13330-TLL-CEB</u> V.D.22	<p><b>Description of Non-Compliance:</b> A MACT pump was discovered to be leaking on 5/16/14 (Friday) and was repaired on the same day. However, repair verification monitoring was not conducted within 24 hours.</p> <p><b>Corrective Action:</b> Repair verification monitoring was conducted on 5/20/14 and the pump was confirmed to be leak free. Additional training has been conducted with operations personnel to ensure 24 hour repair verification monitoring gets performed as required. Additional prompts to flag repairs on ELP equipment leaks are being evaluated.</p>

## ELP Compliance Status Report

VI.53.c	An identification of any problems encountered in complying with the requirements of Section V (Compliance Requirements);	
	Requirement Identification (citation & requirement summary)	Description of problem and associated corrective action
	None	None
VI.53.d	The information required by Paragraph 40 of Subsection V.G (Valve and Connector Replacement and Improvement Program )	<b>See Appendix V.G:</b> Valve and Connector Replacement and Improvement Program Report
VI.53.e	A description of the trainings done in accordance with this Consent Decree	
	Training Identification	Summary of Training
	Fugitive ELP Training - General Overview	General requirements for personnel with limited interaction with the program. Pertains to individuals such as engineering staff who order equipment, document administrators, and other office personnel.
	Enhanced LDAR Program (ELP) Training - Maintenance staff	Review of requirements pertaining to repair and maintenance of LDAR equipment. Includes personnel such as those that complete repairs, install equipment, install packing, and perform other maintenance activities.
	Enhanced LDAR Program (ELP) Training - Operations Staff	Review of requirements pertaining to day-to-day management of the ELP requirements. Includes personnel with day-to-day field activities. They may perform repair attempts, visual inspections, and minor maintenance of LDAR equipment.
	Enhanced LDAR Program (ELP) Training - Tech Staff	In-depth review of all facility specific ELP requirements. Training is given to roles including project engineers, improvement engineers, process engineers, plant leadership, facility LDAR program contacts, monitoring personnel, and program managers.

# ELP Compliance Status Report

VI.53.f	Any deviations identified in the QA/QC performed under Subsection V.J as well as any corrective actions taken under that Subsection	
	QA/QC Deviation Description	Summary of Corrective Action
	None	Not applicable
VI.53.g	A summary of LDAR audit results including specifically identifying all alleged deficiencies	
	Description of LDAR Audit Area	Summary of Results, Deficiencies, & Resolution Actions
	Ethocel™ cellulose ethers	<p><b>Description of Non-Compliance:</b> During observations of technician monitoring techniques, the audit team observed that one technician did not monitor the pump casing drain plug located on the pump casing. The pump casing drain plug was difficult to spot and not all pumps have casing drain plugs.</p> <p><b>Corrective Action:</b> The fugitive monitoring contractor employees have been re-trained to ensure they understand the requirements for monitoring all potential pump leak interfaces as required by 40 CFR 60 Appendix A - Method 21. In addition, the fugitive monitoring contractor has updated their Method 21 training document.</p>
	Ethocel™ cellulose ethers	<p><b>Description of Non-Compliance:</b> During observations of technician monitoring techniques, the audit team observed that two technicians did not monitor the entire potential leak interfaces on one sample valve. This valve is not a typical valve with a stem, so the technicians failed to recognize to monitor the bolt on the backside of the valve.</p> <p><b>Corrective Action:</b> The fugitive monitoring contractor employees have been re-trained to ensure they understand the requirements for monitoring all potential valve leak interfaces as required by 40 CFR 60 Appendix A - Method 21. In addition, the fugitive monitoring contractor has updated their Method 21 training document.</p>
	Ethocel™ cellulose ethers	<p><b>Description of Non-Compliance:</b> Two connectors were not replaced or improved within the required timeframe after leaking above 250 ppm in two consecutive monitoring periods. See VI.53.b Attachment 1 for details.</p> <p><b>Corrective Action:</b> See VI.53.b Attachment 1 for replacement details. In addition, connector replacement or improvement program guidance documents were created and training was conducted.</p>
	Low Gloss ABS Unit	<p><b>Alleged LDAR Audit Deficiency:</b> Auditors believed that two connectors (18412.1 and 108603.2) were not replaced or improved within the required timeframe after leaking above 250 ppm in two consecutive monitoring periods. Upon further review, Dow has determined that the audit finding was incorrect. Both connectors required a process unit shutdown to complete the required replacements, and both connectors were replaced during the first Maintenance Shutdown following the initial triggering events.</p>

## ELP Compliance Status Report

VI.53.h

The status of all actions under any Corrective Action Plan (CAP) that was submitted during the reporting period, unless the CAP was submitted less than one month before the compliance status report

The CAP is not yet due. The 2014 LDAR Audit Completion Date was 5/1/2014 (based on the requirement in Paragraph 45 of the Consent Decree to occur no later than the end of the 2nd quarter, when the first LDAR Audit Completion Date occurred), therefore, according to the submittal time frame set forth in Subsection K, Paragraph 50.b. the Corrective Action Plan shall be submitted no later than the date that is four months after the LDAR Audit Completion Date (9/1/2014). All corrective actions are expected to be complete before the CAP due date.

**VI.53.b - Attachment 1**  
**V.G. 32.b Non-Conformances**

Covered Process Unit	Valve tag number	Date of monitoring event that triggered V.G.32 requirements	Date of Repair Verification and Method 21 Screening Value	Date of V.G.32 requirement completion	Number of days out of compliance with V.G.32.b.	Low E Technology Commercially Available
Low Gloss ABS	16916	8/15/2013	8/19/13 63 ppm	11/13/2013	> 40	No
Low Gloss ABS	15923	5/14/2014	5/15/2014 4 ppm	7/2/2014	18	Yes

**V.G. 38.a Non-Conformances**

Covered Process Unit	Connector tag number	Date of monitoring event that triggered V.G.38 requirements	Date of Repair Verification and Method 21 Screening Value	Date of V.G.38 requirement completion	Number of days out of compliance with V.G.38.b.	V.G. 36.a Connector Replacement or Improvement Type
Ethocel™ cellulose ethers	100557	3/8/2013	3/12/2013 141 ppm	5/8/2014	> 80	Replaced flanged connector gasket
Ethocel™ cellulose ethers	62146.2	3/4/2013	3/5/2013 2 ppm	3/13/2014	> 80	Replaced with like kind threaded connector

# Ethocel™ cellulose ethers

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.28	Commencing no later than six months after the Effective Date of this Consent Decree, and continuing until termination, Dow shall implement the program set forth in Paragraphs 29-40 to improve the emissions performance of the valves and connectors that are Covered Equipment in each Covered Process Unit. All references to "valves" in paragraphs 29-35 exclude pressure relief valves.			Effective Date:	November 23, 2011	
V.G.29	List of all Existing Valves in the covered Process Unit: In the first compliance status report required under Section VI and due at least six months after the Effective Date of this Consent Decree, Dow shall include a list of the tag numbers of all valves subject to the ELP, broken down by Covered Process Unit, that are in existence as the Effective Date. The valves on the list shall be the "Existing Valves" for purposes of Paragraph 30-32.				Not applicable	
V.G.30	Pro-Active Initial Valve Tightening Work Practices Relating to each New Valve that is Installed and each Existing Valve that is Repacked. Dow shall undertake the following work practices with respect to each new valve that is subject to LDAR that is installed (whether the new valve replaces an Existing Valve or is newly added to the Covered Process Unit) and each Existing Valve that is repacked.					
V.G.30.a	Upon installation (or re-installation in the case of repacking), Dow shall tighten the valve's packing gland nuts or their equivalent (e.g., pushers) to: (i) the manufacturer's recommended gland nut or packing torque; or (ii) any appropriate tightness that will minimize the potential for fugitive emission leaks of any magnitude. This practice shall be implemented prior to the valve's exposure (or re-exposure, in the case of repacking) to process fluids.					
V.G.30.b	Not less than three days nor more than two weeks after the valve first is exposed to process fluids at operating conditions, Dow shall recheck the load on the valve packing and, if necessary, shall tighten the packing gland nuts or their equivalent (e.g., pushers) to: (i) the manufacturer's recommended gland nut or packing torque; or (ii) any appropriate tightness that will minimize the potential for fugitive emission leaks of any magnitude.					
Data V.G.30.a-b	Covered Process Unit	Valve Description and/or Tag #	New Valve or Repacked/Replaced Existing Valve	Installation Date	In Service Date	Date of Valve Packing Load Re-Check
	Ethocel™ cellulose ethers	77850	Repacked/Replaced	7/15/2013	7/15/2013	7/24/2013
	Ethocel™ cellulose ethers	DO-416A/ TRUCK SPOT VENT VALVE	Repacked/Replaced	7/15/2013	7/15/2013	7/24/2013
	Ethocel™ cellulose ethers	101411	Repacked/Replaced	7/15/2013	7/15/2013	7/24/2013
	Ethocel™ cellulose ethers	107130	Repacked/Replaced	10/21/2013	11/9/2013	11/12/2013
	Ethocel™ cellulose ethers	100736	Repacked/Replaced	10/23/2013	11/9/2013	11/12/2013
	Ethocel™ cellulose ethers	106229	Repacked/Replaced	10/23/2013	11/9/2013	11/12/2013
	Ethocel™ cellulose ethers	100227	Repacked/Replaced	10/30/2013	11/9/2013	11/12/2013

# Ethocel™ cellulose ethers

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Ethocel™ cellulose ethers	101525	Repacked/Replaced	10/30/2013	11/9/2013	11/12/2013
Ethocel™ cellulose ethers	101354	Repacked/Replaced	11/24/2013	11/24/2013	11/27/2013
Ethocel™ cellulose ethers	100402	Repacked/Replaced	3/1/2014	3/1/2014	3/5/2014
Ethocel™ cellulose ethers	Reactor 2 Strahman Valve	Repacked/Replaced	4/4/2014	4/4/2014	4/7/2014
Ethocel™ cellulose ethers	99308	Repacked/Replaced	4/24/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	84912	Repacked/Replaced	4/24/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	101551	Repacked/Replaced	4/25/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	101541	Repacked/Replaced	4/25/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	85458	Repacked/Replaced	4/25/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100777	Repacked/Replaced	4/26/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100898	Repacked/Replaced	4/29/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100853	Repacked/Replaced	5/2/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106344	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106345	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106347	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106395	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014

# Ethocel™ cellulose ethers

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Ethocel™ cellulose ethers	106366	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106392	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106368	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106346	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	106371	Repacked/Replaced	5/5/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	108422	Repacked/Replaced	5/6/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100577	Repacked/Replaced	5/6/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100826	Repacked/Replaced	5/6/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100952	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100401	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100402	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100377	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100347	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	108966	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100327	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014
Ethocel™ cellulose ethers	100309	Repacked/Replaced	5/7/2014	5/13/2014	5/19/2014

# Ethocel™ cellulose ethers

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Ethocel™ cellulose ethers	DO 429A truck vent valve	Repacked/Replaced	5/16/2014	5/16/2014	5/20/2014
	Ethocel™ cellulose ethers	100930	Repacked/Replaced	6/24/2014	6/24/2014	6/30/2014
	Ethocel™ cellulose ethers	100353	Repacked/Replaced	6/25/2014	6/25/2014	6/30/2014
	Ethocel™ cellulose ethers	DO 429A truck vent valve	Repacked/Replaced	6/26/2014	6/26/2014	6/30/2014
V.G. 31	Installing New Valves. Except as provided in Subparagraphs 31.a, 31.b, or Paragraph 34, Dow shall ensure that each new valve (other than a valve that serves as the closure device on an open-ended line) that it installs in each Covered Process Unit, and that, when installed, will be regulated under LDAR, either is a Low-E Valve or is fitted with Low-E Packing. This requirement applies to entirely new valves that are added to a Covered Process Unit and to Existing Valves that are replaced for any reason in a Covered Process Unit.					
V.G.31a	Paragraph 31 shall not apply in emergencies or exigent circumstances requiring immediate installation or replacement of a valve where a Low-E Valve or Low-E Packing is not available on a timely basis. Any such instance shall be reported in the next ELP compliance status report.					
V.G.31b	Paragraph 31 shall not apply to valves that are installed temporarily for a short term purpose and then removed (e.g., valves connecting a portion of the Covered Process Unit to a testing device.)					
Data V.G. 31	Covered Process Unit	Valve Tag # or Description	Low E Technology Installed (Yes or No)	If Low E Technology not used, explain (if "commercially unavailable", see <b>Appendix V.G. 34 and Commercial Unavailability</b> )		
	Ethocel™ cellulose ethers	DO-416A/ TRUCK SPOT VENT VALVE	No	See Ethocel Appendix V.G.34		
	Ethocel™ cellulose ethers	101354	No	See Ethocel Appendix V.G.34		
	Ethocel™ cellulose ethers	Reactor 2 Strahman Valve	No	See Ethocel Appendix V.G.34		
	Ethocel™ cellulose ethers	106344	No	See Ethocel Appendix V.G.34		
	Ethocel™ cellulose ethers	106345	No	See Ethocel Appendix V.G.34		

## Ethocel™ cellulose ethers

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Ethocel™ cellulose ethers	106347	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106395	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106366	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106392	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106368	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106346	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	106371	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100402	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100952	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100401	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100402	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100377	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100347	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	108966	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100327	No	See Ethocel Appendix V.G.34
Ethocel™ cellulose ethers	100309	No	See Ethocel Appendix V.G.34

# Ethocel™ cellulose ethers

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Ethocel™ cellulose ethers	99308	No	See Ethocel Appendix V.G.34
	Ethocel™ cellulose ethers	DO 429A truck vent valve	Yes	Low E Velan 2" ball valve was installed on 5/15/2014 and 6/26/2014. Valve leaked by internally to the process during both installations. See Ethocel Appendix V.G.34
	Ethocel™ cellulose ethers	DO 429A truck vent valve	No	Non-Low E Jamesbury 2" ball valve installed on 5/16/2014 and 6/26/2014 after both Velan valves failed. See Ethocel Appendix V.G.34
V.G.32	Replacing or Repacking Existing Valves that Have Screening Values at or above 250 ppm with Low E Valves or Low E Packing.			
V.G.32.a	a. Existing Valves Required to Be Replaced or Repacked. Except as provided in Paragraph 34, for each Existing Valve that has a Screening Value at or above 250 ppm during any monitoring event, Dow shall either replace or repack the Existing Valve with a Low E Valve or Low E Packing.			
V.G.32.b	b. Timing: If Replacing or Repacking Does Not Require a Process Unit Shutdown. If replacing or repacking does not require a process unit shutdown, Dow shall replace or repack the Existing Valve by no later than one month after the monitoring event that triggers the replacing or repacking requirement, unless Dow complies with the following:			
V.G.32.b.i	Prior to the deadline, Dow must take all actions necessary to obtain the required valve or valve packing, including all necessary associated materials, as expeditiously as practical, and retain documentation of the actions taken and the date of each such action;			
V.G.32.b.ii	If, despite Dow's efforts to comply with Subparagraph 32.b.i, the required valve or valve packing, including all necessary associated materials, is not available in time to complete the installation within one month, Dow must take all reasonable actions to minimize emissions from the valve pending completion of the required replacing or repacking. Examples include: (a) Repair; (b) More frequent monitoring, with additional repairs as needed; or (c) Where practical, interim replacing or repacking of a valve with a valve that is not a Low-E Valve or with packing that is not Low-E Packing; and			
V.G.32.b.iii	Dow must promptly perform the required replacing or repacking after Dow's receipt of the valve or valve packing, including all necessary associated materials.			
V.G.32.c	c. Timing: If Replacing or Repacking Requires a Process Unit Shutdown. If replacing or repacking requires a process unit shutdown, Dow shall replace or repack the Existing Valve during the first Maintenance Shutdown that follows the monitoring event that triggers the requirement to replace or repack the valve, unless Dow documents that insufficient time existed between the monitoring event and that Maintenance Shutdown to enable Dow to purchase and install the required valve or valve packing technology. In that case, Dow shall undertake the replacing or repacking at the next Maintenance Shutdown that occurs after Dow's receipt of the valve or valve packing, including all necessary associated materials.			
V.G.32.d	d. Actions Required Pending Replacing or Repacking Pursuant to Subparagraphs 32.a - c.			
V.G.32.d.i	i. Actions Required Pursuant to Subsection E. Dow shall not be required to comply with Subsection E pending replacing or repacking pursuant to Subparagraphs 32.a - c if Dow completes the replacing or repacking by the date that is no later than one month after detecting the leak. If Dow does not complete the replacing or repacking within one month, or if, at the time of the leak detection, Dow reasonably can anticipate that it might not be able to complete the replacing or repacking within one month, Dow shall comply with all applicable requirements of Subsection E.			
V.G.32.d.ii	ii. Actions Required Pursuant to Applicable Regulations. For each Existing Valve that has a Screening Value at or above 500 ppm, Dow shall comply with all applicable regulatory requirements, including repair and "delay of repair," pending replacing or repacking pursuant to Subparagraphs 32.a - c.			

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.32 a-d	Covered Process Unit	Valve Tag #	Screening Value (ppm) and Initial Monitoring Date	Date Action Was Taken and Type of Action Taken	Any Actions Not Taken and Why	Schedule for Known Replacement, Repackings, Improvements, or Eliminations
	Ethocel™ cellulose ethers	77850	321 6/17/2013	7/15/2013 Replaced valve.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	84912	262 6/18/2013	Maintenance Shutdown Required: Replaced on 4/24/2014 due to insufficient time between monitoring and first the Maintenance Shutdown in October 2013. As per email discussion with EPA (1/15/14 and 2/4/14), EPA has agreed to not pursue stipulated penalties for this situation.	Replace/Repack did not occur during the first Maintenance Shutdown following the initial leak date due to valve/valve packing and associated materials not available. Upon ordering equipment, manufacturer documented 10 week lead time for receipt of equipment.	Not Applicable
	Ethocel™ cellulose ethers	100227	1715 6/18/2013	Maintenance Shutdown Required: Replaced on 10/30/2013 during the first Maintenance Shutdown after the initial monitoring event.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	107130	481 6/18/2013	Maintenance Shutdown Required: Replaced on 10/21/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	101411	886 6/19/2013	7/15/2013 Replaced valve.	Not Applicable	Not Applicable

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Ethocel™ cellulose ethers	101551	315 6/19/2013	Maintenance Shutdown Required: Replaced on 4/24/2014 due to insufficient time between monitoring event and first the Maintenance Shutdown in October 2013. As per email discussion with EPA (1/15/14 and 2/4/14), EPA has agreed to not pursue stipulated penalties for this situation.	Replace/Repack did not occur during the first Maintenance Shutdown following the initial leak date due to valve/valve packing and associated materials not available. Upon ordering equipment, manufacturer documented 6 week lead time for receipt of equipment.	Not Applicable
Ethocel™ cellulose ethers	100736	315 6/20/2013	Maintenance Shutdown Required: Valve repacked. Valve installed in plant on 10/23/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	106229	721 6/20/2013	Maintenance Shutdown Required: Replaced on 10/23/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	101525	389 9/9/2013	Maintenance Shutdown Required: Replaced on 10/30/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	77855	744 9/11/2013	Maintenance Shutdown Required: Valve was removed from service on 10/20/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Ethocel™ cellulose ethers	101541	843 12/4/2013	Maintenance Shutdown Required: Replaced on 10/30/2013 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	100777	277 12/6/2013	Maintenance Shutdown Required: Replaced on 4/26/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	100853	628 12/6/2013	Maintenance Shutdown Required: Replaced on 5/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	100898	751 12/6/2013	Maintenance Shutdown Required: Replaced on 4/29/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	108422	958 12/10/2013	Maintenance Shutdown Required: Valve repacked. Valve installed in plant on 5/6/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
Ethocel™ cellulose ethers	100577	512 3/5/2014  1526 3/12/2014	Maintenance Shutdown Required: Valve repacked. Valve installed in plant on 5/6/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Ethocel™ cellulose ethers	100826	704 3/5/2014	Maintenance Shutdown Required: Valve repacked. Valve installed in plant on 5/6/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	85458	1258 3/11/2014	Maintenance Shutdown Required: Replaced on 4/25/2014 during the first Maintenance Shutdown after the monitoring event.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	100353	1010 6/4/2014	6/24/20145 Valve replaced.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	100930	3846 6/5/2014	6/24/2014 Valve replaced.	Not Applicable	Not Applicable
	Ethocel™ cellulose ethers	97365	5525 6/9/2014	Replace/Repack scheduled to occur outside of the current reporting period (7/1/2013-6/30/2014).	Replace/Repack requires Maintenance Shutdown	Replace/Repack will occur by the end of the first Maintenance Shutdown after the monitoring event, currently scheduled for: October 2014.
V.G.33	33. Provisions Related to Low-E Valves and Low-E Packing.					
V.G.33.a	a. "Low E" Status Not Affected by Subsequent Leaks. If, during monitoring after installation, a Low-E Valve or a valve using Low-E Packing has a Screening Value at or above 250 ppm, the leak is not a violation of this Decree, does not invalidate the "Low E" status or use of that type of valve or packing technology, and does not require replacing other, non-leaking valves or packing technology of the same type.					
V.G.33.b	b. Repairing Low E Valves. If, during monitoring after installation, a Low-E Valve or a valve using Low-E Packing has a Screening Value at or above 250 ppm, Paragraphs 21, 22, 24, 25, 26 and 27 shall apply.					
V.G.33.c	c. Replacing or Repacking Low E Valves. On any occasion when a Low-E Valve or a valve that utilizes Low-E Packing has a Screening Value at or above 250 ppm but below 500 ppm, Dow shall not be required to replace or repack it. On any occasion when a Low E Valve or a valve that utilizes Low E Packing has a Screening Value at or above 500 ppm, Dow shall replace or repack it pursuant to the requirements of Paragraph 32.					

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.33 a-c	Covered Process Unit	Low E Valve Tag #	Screening Value (ppm)	Action Taken: (Replaced/Repacked/Repaired)
	Ethocel™ cellulose ethers	Not Applicable	Not Applicable	Not Applicable
V.G.34	34. Commercial Unavailability of a Low-E Valve or Low-E Packing: Dow shall not be required to utilize a Low-E Valve or Low-E Packing to replace or			See Ethocel Appendix V.G.34
V.G.35	35. Records of Low-E Valves and Low-E Packing: Prior to installing any Low-E Valves or Low-E Packing, or if not possible before installation, then as soon as possible after installation, Dow shall secure from each manufacturer documentation that demonstrates that the proposed valve or packing technology meets the definition of "Low-E Valve" and/or "Low-E Packing." Dow shall make the documentation available upon request.			See Ethocel Appendix V.G.35
V.G.36	36. Connector Replacement and Improvement Descriptions.			
V.G.36.a	a. For purposes of Paragraphs 37 - 38, for each of the following types of connectors, the following type of replacement or improvement shall apply:			
	Connector Type - Replacement or Improvement Description			
	Flanged - Gasket replacement or gasket improvement			
	Threaded - Replacement of the connector with a like kind connector or other			
	Compression - Replacement of the connector with a like kind connector or other			
	Cam Lock - Replacement or improvement of the gasket or replacement or improvement of the Cam Lock			
	Quick Connect - Replacement or improvement of the gasket if applicable, or replacement of the connector (with either a like kind connector or other) if there is no gasket			
	Any type (including any of the above) - Elimination (e.g., through welding, pipe replacement, etc.)			
V.G.36.b	b. In cases where replacement in kind is utilized as the method for replacing or improving a connector (e.g., a Quick Connect replaces another Quick Connect), the provisions of Subparagraphs 36.b.i and 36.b.ii shall apply.			
V.G.36.b.i	i. If there are types, models or styles of a like-kind connector that are less likely to leak than the existing connector, and one or more of those types, models or styles are technically feasible to use (considering the service, operating conditions, and type of piping or tubing that the connector is in) and would not create a major safety, mechanical, product quality, regulatory or other issue, Dow shall select a like-kind connector from among such types, models or styles.			
V.G.36.b.ii	ii. If Subparagraph 36.b.i does not apply, Dow may install a like-kind connector that is the same type, model or style as the existing connector.			
V.G.37	37. Installing New Connectors: For each Covered Process Unit, Dow shall use best efforts, when selecting a new connector that, when installed, will be regulated under LDAR, to select a connector that is least likely to leak, using good engineering judgment, for the service, operating conditions, and type of piping or tubing that the connector is in. This requirement applies to entirely new connectors added to a Covered Process Unit and to existing connectors that are replaced for whatever reason within a Covered Process Unit.			

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.37	Covered Process Unit	New Connector Tag # or Description	Connector Type	Connector Selected That Is Least Likely To Leak (Yes or No)	If Ethocel piping specifications were not followed to select connector, explain why
	Ethocel™ cellulose ethers	109884.3	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	109884.4	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	109884.5	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109884.6	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109884.7	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109366.1	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109366.2	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109366.3	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109366.4	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	109366.5	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	106377.4	Threaded	Yes	Not Applicable
	Ethocel™ cellulose ethers	150058.1	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	150058.2	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	150059.1	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	150059.2	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	150060.2	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	150063.2	Flanged - Gasket	Yes	Not Applicable
	Ethocel™ cellulose ethers	100025	Flanged - Gasket	Yes	Not Applicable

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Ethocel™ cellulose ethers	100025.1	Flanged - Gasket	Yes	Not Applicable	
	Ethocel™ cellulose ethers	100359.1	Flanged - Gasket	Yes	Not Applicable	
	Ethocel™ cellulose ethers	100491.15	Flanged - Gasket	Yes	Not Applicable	
	Ethocel™ cellulose ethers	101243	Flanged - Gasket	Yes	Not Applicable	
	Ethocel™ cellulose ethers	62146.2	Threaded	Yes	Not Applicable	
	Ethocel™ cellulose ethers	100557	Flanged - Gasket	Yes	Not Applicable	

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.38	38. Replacing or Improving Connectors.
V.G.38.a	a. Trigger for Replacement or Improvement Requirements. For each connector that, in any two of three consecutive monitoring periods, has a Screening Value at or above 250 ppm, Dow shall replace or improve the connector in accordance with the applicable replacement or improvement described in Paragraph 36. Dow shall use best efforts to install a replacement or improvement that will be the least likely to leak, using good engineering judgment, for the service, operating conditions, and type of piping or tubing that the connector is in.
V.G.38.b	b. Timing. If the replacement or improvement does not require a process unit shutdown, Dow shall undertake the replacement or improvement by no later than one month after the monitoring event that triggers the replacement or improvement requirement. If the replacement or improvement requires a process unit shutdown, Dow shall undertake the replacement or improvement during the first Maintenance Shutdown that follows the monitoring event that triggers the requirement to replace or improve the connector, unless Dow documents that insufficient time existed between the monitoring event and the Maintenance Shutdown to enable Dow to secure and install the replacement or improvement. In that case, Dow shall undertake the replacement or improvement at the next Maintenance Shutdown that occurs after Dow's receipt of the necessary materials.
V.G.38.c	c. Actions Required Pending Replacements or Improvements Pursuant to Subparagraphs 38.a b.
V.G.38.c.i	i. Actions Required Pursuant to Subsection E. Dow shall not be required to comply with Subsection E pending replacement or improvement pursuant to Subparagraphs 38.a b if Dow completes the replacement or improvement by the date that is no later than one month after detecting the leak. If Dow does not complete the replacement or improvement within one month, or if, at the time of the leak detection, Dow reasonably can anticipate that it might not be able to complete the replacement or improvement within one month, Dow shall comply with all applicable requirements of Subsection E.
V.G.38.c.ii	ii. Actions Required Pursuant to Applicable Regulations. For each connector that has a Screening Value at or above 500 ppm, Dow shall comply with all applicable regulatory requirements, including repair and "delay of repair," pending replacement or improvement pursuant to Subparagraphs 38.a b.

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.38	Covered Process Unit	Connector Tag #	Monitoring Dates and Screening Values (ppm) That Trigger Replacement or Improvement	Date Action Was Taken and Type of Action Taken	Any Actions Not Taken and Why	Schedule for Known Replacements, Improvements, or Eliminations
	Ethocel™ cellulose ethers	62146.2	6/8/2012 - 279 ppm 3/4/2013 - 423 ppm	3/13/2014 Like for like replacement of threaded connector.	Replacement or improvement did not occur within one month of the trigger date. See VI.53.b Attachment 1 for details.	Not Applicable
	Ethocel™ cellulose ethers	100557	12/12/12 - 351 ppm 3/8/2013 - 376 ppm	Maintenance Shutdown Required: Replaced flanged connector gasket on 5/8/2014 during the first maintenance shutdown after discovering this connector triggered replacement or improvement.	Replacement or improvement did not occur within the required time frame. See VI.53.b Attachment 1 for details.	Not Applicable
V.G.39	39. Nothing in Paragraphs 30 - 38 requires Dow to utilize any valve, valve packing technology, or connector that is not appropriate for its intended use in a Covered Process Unit.					
V.G.40	In each Compliance Status Report due under Section VI (Reporting Requirements) of this Decree, Dow shall include a separate section in the Report that: (i) describes the actions it took to comply with this Subsection G, including identifying each piece of equipment that triggered a requirement in Subsection G, the Screening Value for that piece of equipment, the type of action taken (i.e., replacement, repacking, or improvement), and the date when the action was taken; (ii) identifies any required actions that were not taken and explains why; and (iii) identifies the schedule for any known, future replacements, repacking, improvements, or eliminations.					

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.28	Commencing no later than six months after the Effective Date of this Consent Decree, and continuing until termination, Dow shall implement the program set forth in Paragraphs 29-40 to improve the emissions performance of the valves and connectors that are Covered Equipment in each Covered Process Unit. All references to "valves" in paragraphs 29-35 exclude pressure relief valves.			Effective Date:	November 23, 2011	
V.G.29	List of all Existing Valves in the covered Process Unit: In the first compliance status report required under Section VI and due at least six months after the Effective Date of this Consent Decree, Dow shall include a list of the tag numbers of all valves subject to the ELP, broken down by Covered Process Unit, that are in existence as the Effective Date. The valves on the list shall be the "Existing Valves" for purposes of Paragraph 30-32.				Not applicable	
V.G.30	Pro-Active Initial Valve Tightening Work Practices Relating to each New Valve that is Installed and each Existing Valve that is Repacked. Dow shall undertake the following work practices with respect to each new valve that is subject to LDAR that is installed (whether the new valve replaces an Existing Valve or is newly added to the Covered Process Unit) and each Existing Valve that is repacked.					
V.G.30.a	Upon installation (or re-installation in the case of repacking), Dow shall tighten the valve's packing gland nuts or their equivalent (e.g., pushers) to: (i) the manufacturer's recommended gland nut or packing torque; or (ii) any appropriate tightness that will minimize the potential for fugitive emission leaks of any magnitude. This practice shall be implemented prior to the valve's exposure (or re-exposure, in the case of repacking) to process fluids.					
V.G.30.b	Not less than three days nor more than two weeks after the valve first is exposed to process fluids at operating conditions, Dow shall recheck the load on the valve packing and, if necessary, shall tighten the packing gland nuts or their equivalent (e.g., pushers) to: (i) the manufacturer's recommended gland nut or packing torque; or (ii) any appropriate tightness that will minimize the potential for fugitive emission leaks of any magnitude.					
Data V.G.30.a-b	Covered Process Unit	Valve Description and/or Tag #	New Valve or Repacked/Replaced Existing Valve	Installation Date	In Service Date	Date of Valve Packing Load Re-Check
	Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnrf)	New	7/31/2013	7/31/2013	8/9/2013
	Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnrf)	New	7/31/2013	7/31/2013	8/9/2013
	Low Gloss ABS Unit	1226 V-107East 2" Jamesbury BV(vb150cs111vnrf)	New	7/31/2013	7/31/2013	8/9/2013
	Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnrf)	New	7/31/2013	7/31/2013	8/9/2013
	Low Gloss ABS Unit	1226 by PT N:AI-287 top of V-05 East 1" Jamesbury BV(vb150cs111vnrf)	New	7/31/2013	7/31/2013	8/9/2013
	Low Gloss ABS Unit	15762	Repacked/Replaced	8/27/2013	8/27/2013	9/3/2013

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Low Gloss ABS Unit	17085	Repacked/Replaced	9/11/2013	9/11/2013	9/23/2013
Low Gloss ABS Unit	72248	Repacked/Replaced	9/13/2013	9/13/2013	9/23/2013
Low Gloss ABS Unit	16958	Repacked/Replaced	9/17/2013	9/17/2013	9/22/2013
Low Gloss ABS Unit	66494	Repacked/Replaced	9/19/2013	9/19/2013	9/23/2013
Low Gloss ABS Unit	102220	Repacked/Replaced	9/27/2013	9/27/2013	10/8/2013
Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnrf)	New	10/1/2013	10/2/2013	10/8/2013
Low Gloss ABS Unit	1226 V-107 east 2" Jamesbury BV(vb150cs111vnrf)	New	10/1/2013	10/2/2013	10/8/2013
Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnrf)	New	10/1/2013	10/2/2013	10/8/2013
Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnrf)	New	10/1/2013	10/2/2013	10/8/2013
Low Gloss ABS Unit	1226 recirc 2"KTMBV(vb150cs111vnrf)	New	10/1/2013	10/2/2013	10/8/2013
Low Gloss ABS Unit	15597	Repacked/Replaced	11/13/2013	11/13/2013	11/18/2013
Low Gloss ABS Unit	16916	Repacked/Replaced	11/13/2013	11/13/2013	11/18/2013
Low Gloss ABS Unit	97682	Repacked/Replaced	12/4/2013	12/4/2013	12/9/2013
Low Gloss ABS Unit	3793	Repacked/Replaced	2/12/2014	2/12/2014	2/17/2014
Low Gloss ABS Unit	103231	Repacked/Replaced	2/24/2014	2/26/2014	3/3/2014
Low Gloss ABS Unit	3390	Repacked/Replaced	2/25/2014	2/25/2014	2/28/2014
Low Gloss ABS Unit	15903	Repacked/Replaced	3/4/2014	3/4/2014	3/10/2014
Low Gloss ABS Unit	103233	Repacked/Replaced	3/6/2014	3/6/2014	3/10/2014
Low Gloss ABS Unit	108959	Repacked/Replaced	3/6/2014	3/6/2014	3/10/2014
Low Gloss ABS Unit	17605	Repacked/Replaced	3/24/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	18822	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	18711	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	17661	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	17662	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	106545	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	17294	Repacked/Replaced	3/31/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	17284	Repacked/Replaced	3/31/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	17885	Repacked/Replaced	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train Condenser Liquid out to receiver Tagged VB300SS711VARF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train Condenser Drain on liquid out line Tagged VG-800SS2BST	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train Condenser Vapor line steam connection Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train Condenser Spare 2" nozzle on top Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train Partial Condenser Liquid drain line to receiver Tagged VB-150SS311VNRF KTM EB732-32EU-15L/3.0	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Inlet Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Outlet Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Upstream Drain Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014

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Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Downstream Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Inlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Outlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Inlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Outlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Upstream Drain Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Downstream Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Inlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Outlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Inlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Outlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Upstream Drain Tagged VB-150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Downstream Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Inlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Outlet Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Drain Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Bypass Tagged VB- 150SS311VNRF	New	3/31/2014	4/5/2014	4/8/2014
Low Gloss ABS Unit	17452	Repacked/Replaced	4/2/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	102286	Repacked/Replaced	4/2/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	16977	Repacked/Replaced	4/2/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	17862	Repacked/Replaced	4/3/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	97707	Repacked/Replaced	4/3/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train SVT Tank Bottom Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train SVT N Tank PSV Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train SVT S Tank PSV Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A PI Isolation	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A PI Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A Discharge	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B PI Isolation	New	4/5/2014	4/9/2014	4/12/2014

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B PI Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B Discharge	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Drain Above P- 5001A/B	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter By-pass	New	4/5/2014	4/9/2014	4/12/2014

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Line Drain On By-pass line	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001C PI Isolation	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001A PI Drain	New	4/5/2014	4/9/2014	4/12/2014

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001A Discharge	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B PI Isolation	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B PI Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B Discharge	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain Above P- 5001A/B	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet Drain	New	4/5/2014	4/9/2014	4/12/2014

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Isolation to PI	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain to PI	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Outlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter By-pass	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Inlet	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Drain	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve	New	4/5/2014	4/9/2014	4/12/2014
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve By-pass	New	4/5/2014	4/9/2014	4/12/2014

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Low Gloss ABS Unit	37534	Repacked/Replaced	5/9/2014	5/9/2014	5/12/2014
	Low Gloss ABS Unit	15923	Repacked/Replaced	7/2/2014	7/2/2014	7/5/2014
V.G.31	<b>Installing New Valves:</b> Except as provided in Subparagraphs 31.a, 31.b, or Paragraph 34, Dow shall ensure that each new valve (other than a valve that serves as the closure device on an open-ended line) that it installs in each Covered Process Unit, and that, when installed, will be regulated under LDAR, either is a Low-E Valve or is fitted with Low-E Packing. This requirement applies to entirely new valves that are added to a Covered Process Unit and to Existing Valves that are replaced for any reason in a Covered Process Unit.					
V.G.31.a	Paragraph 31 shall not apply in emergencies or exigent circumstances requiring immediate installation or replacement of a valve where a Low-E Valve or Low-E Packing is not available on a timely basis. Any such instance shall be reported in the next ELP compliance status report.					
V.G.31.b	Paragraph 31 shall not apply to valves that are installed temporarily for a short term purpose and then removed (e.g., valves connecting a portion of the Covered Process Unit to a testing device.)					
Data V.G.31	Covered Process Unit	Valve Tag # or Description	Low E Technology Installed (Yes or No)	If Low E Technology not used, explain (if "commercially unavailable", see <b>Appendix V.G. 34 and Commercial Unavailability</b> )		
	Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 V-107East 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 by PT N:Al-287 top of V-05 East 1" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		
	Low Gloss ABS Unit	1226 V-107 east 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34		

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	1226 recirc 2"KTMBV(vb150cs111vnrf)	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train Condenser Liquid out to receiver Tagged VB300SS711VARF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train Condenser Drain on liquid out line Tagged VG-800SS2BST	Yes	See Low Gloss Appendix V.G.35
Low Gloss ABS Unit	A-Train Condenser Vapor line steam connection Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train Condenser Spare 2" nozzle on top Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train Partial Condenser Liquid drain line to receiver Tagged VB-150SS311VNRF KTM EB732-32EU-15L/3.0	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Inlet Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Outlet Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Upstream Drain Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Downstream Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Inlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Outlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Inlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Outlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Upstream Drain Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Downstream Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Inlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Outlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Inlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Outlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Upstream Drain Tagged VB-150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Downstream Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Inlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Outlet Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Drain Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Bypass Tagged VB- 150SS311VNRF	No	See Low Gloss Appendix V.G.34

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train SVT Tank Bottom Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train SVT N Tank PSV Drain	Yes	See Low Gloss Appendix V.G.35
Low Gloss ABS Unit	B-Train SVT S Tank PSV Drain	Yes	See Low Gloss Appendix V.G.35
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A PI Isolation	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A PI Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001A Discharge	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B PI Isolation	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B PI Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P-5001B Discharge	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Drain Above P-5001A/B	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Inlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Outlet	No	See Low Gloss Appendix V.G.34

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Inlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Outlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Inlet	No	See Low Gloss Appendix V.G.34

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## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Line Drain On By-pass line	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001C PI Isolation	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001A PI Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001A Discharge	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B PI Isolation	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B PI Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P-5001B Discharge	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain Above P- 5001A/B	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Inlet	No	See Low Gloss Appendix V.G.34

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Outlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle OutSampler	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet Drain	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter By-pass	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Isolation to PI	No	See Low Gloss Appendix V.G.34
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain to PI	No	See Low Gloss Appendix V.G.34

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Inlet	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Drain	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Outlet	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter By-pass	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Inlet	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Drain	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve	No	See Low Gloss Appendix V.G.34	
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve By-pass	No	See Low Gloss Appendix V.G.34	

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.32	Replacing or Repacking Existing Valves that Have Screening Values at or above 250 ppm with Low E Valves or Low E Packing.
V.G.32.a	a. Existing Valves Required to Be Replaced or Repacked. Except as provided in Paragraph 34, for each Existing Valve that has a Screening Value at or above 250 ppm during any monitoring event, Dow shall either replace or repack the Existing Valve with a Low E Valve or Low E Packing.
V.G.32.b	b. Timing: If Replacing or Repacking Does Not Require a Process Unit Shutdown. If replacing or repacking does not require a process unit shutdown, Dow shall replace or repack the Existing Valve by no later than one month after the monitoring event that triggers the replacing or repacking requirement, unless Dow complies with the following:
V.G.32.b.i	Prior to the deadline, Dow must take all actions necessary to obtain the required valve or valve packing, including all necessary associated materials, as expeditiously as practical, and retain documentation of the actions taken and the date of each such action;
V.G.32.b.ii	If, despite Dow's efforts to comply with Subparagraph 32.b.i, the required valve or valve packing, including all necessary associated materials, is not available in time to complete the installation within one month, Dow must take all reasonable actions to minimize emissions from the valve pending completion of the required replacing or repacking. Examples include: (a) Repair; (b) More frequent monitoring, with additional repairs as needed; or (c) Where practical, interim replacing or repacking of a valve with a valve that is not a Low-E Valve or with packing that is not Low-E Packing; and
V.G.32.b.iii	Dow must promptly perform the required replacing or repacking after Dow's receipt of the valve or valve packing, including all necessary associated materials.
V.G.32.c	c. Timing: If Replacing or Repacking Requires a Process Unit Shutdown. If replacing or repacking requires a process unit shutdown, Dow shall replace or repack the Existing Valve during the first Maintenance Shutdown that follows the monitoring event that triggers the requirement to replace or repack the valve, unless Dow documents that insufficient time existed between the monitoring event and that Maintenance Shutdown to enable Dow to purchase and install the required valve or valve packing technology. In that case, Dow shall undertake the replacing or repacking at the next Maintenance Shutdown that occurs after Dow's receipt of the valve or valve packing, including all necessary associated materials.
V.G.32.d	d. Actions Required Pending Replacing or Repacking Pursuant to Subparagraphs 32.a - c.
V.G.32.d.i	i. Actions Required Pursuant to Subsection E. Dow shall not be required to comply with Subsection E pending replacing or repacking pursuant to Subparagraphs 32.a - c if Dow completes the replacing or repacking by the date that is no later than one month after detecting the leak. If Dow does not complete the replacing or repacking within one month, or if, at the time of the leak detection, Dow reasonably can anticipate that it might not be able to complete the replacing or repacking within one month, Dow shall comply with all applicable requirements of Subsection E.
V.G.32.d.ii	ii. Actions Required Pursuant to Applicable Regulations. For each Existing Valve that has a Screening Value at or above 500 ppm, Dow shall comply with all applicable regulatory requirements, including repair and "delay of repair," pending replacing or repacking pursuant to Subparagraphs 32.a - c.

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.32 a-d	Covered Process Unit	Valve Tag #	Screening Value (ppm) and Initial Monitoring Date	Date Action Was Taken and Type of Action Taken	Any Actions Not Taken and Why	Schedule for Known Replacement, Repackings, Improvements, or Eliminations
	Low Gloss ABS Unit	15597	406 5/24/2013	11/13/2013 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 14 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable
	Low Gloss ABS Unit	97682	350 5/24/2013	12/4/2013 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 20 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	17270	897 6/25/2012	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	18822	278 11/13/2012	Maintenance Shutdown Required: Valve was replaced on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17661	267 11/15/2012	Maintenance Shutdown Required: Valve was replaced on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17662	1033 11/15/2012	Maintenance Shutdown Required: Valve was replaced on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17431	846 2/19/2013	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	18711	357 2/22/2013	Maintenance Shutdown Required: Valve was replaced on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17452	929 2/26/2013	Maintenance Shutdown Required: Valve was replaced on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	102286	327 2/26/2013	Maintenance Shutdown Required: Valve was replaced on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17466	297 2/26/2013	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	16396	150 2/28/2013	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	17862	635 3/1/2013  960 5/7/2013	Maintenance Shutdown Required: Valve was replaced on 4/3/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17433	428 5/20/2013	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17467	1930 5/20/2013	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	106545	498 5/24/2013	Maintenance Shutdown Required: Valve was repacked on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17605	1160 5/29/2013	Maintenance Shutdown Required: Valve was replaced on 3/24/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	17294	1251 5/29/2013	Maintenance Shutdown Required: Valve was replaced on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17085	393 8/13/2013	9/11/13 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	17272	540 8/13/2013	9/12/2013 Removed valve from service.	Not applicable	Not applicable
Low Gloss ABS Unit	17284	703 8/14/2013	Maintenance Shutdown Required: Valve was replaced on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	16916	503 8/15/2013	11/13/2013 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date. See VI.53.b Attachment 1 for details. Equipment was ordered just prior to the one month replacement deadline. Upon ordering equipment, manufacturer documented 3-4 week lead time for receipt of equipment.	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	72248	1597 8/15/2013	9/13/2013 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	97707	413 8/15/2013	Maintenance Shutdown Required: Valve was replaced on 4/3/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	16958	572 8/16/2013	9/17/2013 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 10 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable
Low Gloss ABS Unit	15762	254 8/19/2013	8/27/2013 Replaced/repacked valve.	Not applicable	Not applicable
Low Gloss ABS Unit	66494	761 8/19/2013	9/18/2013 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	102220	509 8/29/2013	9/27/2013 Replaced valve.	Not applicable	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Low Gloss ABS Unit	3793	2244 11/12/2013	2/12/2014 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 14 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable
	Low Gloss ABS Unit	3390	519 11/12/2013	2/25/2014 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 14 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable
	Low Gloss ABS Unit	17885	388 11/13/2013	Maintenance Shutdown Required: Valve was replaced on 3/31/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	16977	753 11/20/2013	4/2/2014 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date due to valve/valve packing and associated materials not available. Equipment was ordered in a timely manner, but manufacturer documented 12-14 week lead time for receipt of equipment. Replacement occurred once equipment was received.	Not applicable
Low Gloss ABS Unit	103231	340 2/4/2014	2/26/2014 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	103233	626 2/4/2014	3/6/2014 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	108959	945 2/6/2014	3/6/2014 Repacked valve.	Not applicable	Not applicable
Low Gloss ABS Unit	15903	303 2/17/2014	3/4/2014 Replaced valve.	Not applicable	Not applicable
Low Gloss ABS Unit	17483	6071 3/11/2014	Maintenance Shutdown Required: Valve was removed from service on 4/2/2014 during the first Maintenance Shutdown after the monitoring event.	Not applicable	Not applicable
Low Gloss ABS Unit	17672	1315 4/5/2014	Replace/Repack scheduled to occur outside of the current reporting period (7/1/2013-6/30/2014).	Replace/Repack requires Maintenance Shutdown	April 2017

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Low Gloss ABS Unit	16950	481 5/8/2014	Replace/Repack scheduled to occur outside of the current reporting period (7/1/2013-6/30/2014).	Replace/Repack requires Maintenance Shutdown	April 2017
	Low Gloss ABS Unit	37534	5680 5/8/2014	5/9/2014 Replaced valve.	Not applicable	Not applicable
	Low Gloss ABS Unit	15923	593 5/14/2014	7/2/2014 Replaced valve.	Replace/Repack did not occur within one month of the initial leak date. See VI.53.b Attachment 1 for details.	Not applicable
V.G.33	33. Provisions Related to Low-E Valves and Low-E Packing.					
V.G.33.a	a. "Low E" Status Not Affected by Subsequent Leaks. If, during monitoring after installation, a Low-E Valve or a valve using Low-E Packing has a Screening Value at or above 250 ppm, the leak is not a violation of this Decree, does not invalidate the "Low E" status or use of that type of valve or packing technology, and does not require replacing other, non-leaking valves or packing technology of the same type.					
V.G.33.b	b. Repairing Low E Valves. If, during monitoring after installation, a Low-E Valve or a valve using Low-E Packing has a Screening Value at or above 250 ppm, Paragraphs 21, 22, 24, 25, 26 and 27 shall apply.					
V.G.33.c	c. Replacing or Repacking Low E Valves. On any occasion when a Low-E Valve or a valve that utilizes Low-E Packing has a Screening Value at or above 250 ppm but below 500 ppm, Dow shall not be required to replace or repack it. On any occasion when a Low E Valve or a valve that utilizes Low E Packing has a Screening Value at or above 500 ppm, Dow shall replace or repack it pursuant to the requirements of Paragraph 32.					
Data V.G. 33	Covered Process Unit	Low E Valve Tag #	Screening Value (ppm)	Action Taken: (Replaced/Repacked/Repaired)		
a-c	Low Gloss ABS Unit	Not applicable	Not applicable	Not applicable		

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.34	34. Commercial Unavailability of a Low-E Valve or Low-E Packing. Dow shall not be required to utilize a Low-E Valve or Low-E Packing to replace or repack a valve if a Low-E Valve or Low-E Packing is commercially unavailable. The factors relevant to the question of commercial unavailability and the procedures that Dow must follow to assert that a Low-E Valve or Low-E Packing is commercially unavailable are set forth in Appendix A.	See Low Gloss Appendix V.G.34
V.G.35	35. Records of Low-E Valves and Low-E Packing. Prior to installing any Low-E Valves or Low-E Packing, or if not possible before installation, then as soon as possible after installation, Dow shall secure from each manufacturer documentation that demonstrates that the proposed valve or packing technology meets the definition of "Low-E Valve" and/or "Low-E Packing." Dow shall make the documentation available upon request.	See Low Gloss Appendix V.G.35
V.G.36	36. Connector Replacement and Improvement Descriptions.	
V.G.36.a	a. For purposes of Paragraphs 37 - 38, for each of the following types of connectors, the following type of replacement or improvement shall apply: Connector Type - Replacement or Improvement Description Flanged - Gasket replacement or gasket improvement Threaded - Replacement of the connector with a like kind connector or other Compression - Replacement of the connector with a like kind connector or other Cam Lock - Replacement or improvement of the gasket or replacement or improvement of the Cam Lock Quick Connect - Replacement or improvement of the gasket if applicable, or replacement of the connector (with either a like kind connector or other) if there is no gasket Any type (including any of the above) - Elimination (e.g., through welding, pipe replacement, etc.)	
V.G.36.b	b. In cases where replacement in kind is utilized as the method for replacing or improving a connector (e.g., a Quick Connect replaces another Quick Connect), the provisions of Subparagraphs 36.b.i and 36.b.ii shall apply.	
V.G.36.b.i	i. If there are types, models or styles of a like-kind connector that are less likely to leak than the existing connector, and one or more of those types, models or styles are technically feasible to use (considering the service, operating conditions, and type of piping or tubing that the connector is in) and would not create a major safety, mechanical, product quality, regulatory or other issue, Dow shall select a like-kind connector from among such types, models or styles.	
V.G.36.b.ii	ii. If Subparagraph 36.b.i does not apply, Dow may install a like-kind connector that is the same type, model or style as the existing connector.	
V.G.37	37. Installing New Connectors. For each Covered Process Unit, Dow shall use best efforts, when selecting a new connector that, when installed, will be regulated under LDAR, to select a connector that is least likely to leak, using good engineering judgment, for the service, operating conditions, and type of piping or tubing that the connector is in. This requirement applies to entirely new connectors added to a Covered Process Unit and to existing connectors that are replaced for whatever reason within a Covered Process Unit.	

# ABS Low Gloss

## Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Data V.G.37	Covered Process Unit	New Connector Tag # or Description	Connector Type	Connector Selected That is Least Likely To Leak (Yes or No)	If Low Gloss ABS piping specifications were not followed to select connector type, explain why
	Low Gloss ABS Unit	109284	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	66543.3	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18843.1	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18852.7	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	15444.1	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18627.3	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18627.4	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	66996.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	71923.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	71921.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	18668.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	18673.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	18678.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	18669.4	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18684.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	108955.4	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	98134.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	98131.3	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	18398.9	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	108951.2	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	108953.1	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	81173.1	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	81173.2	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	81173.5	Flanged - Gasket	Yes	Not applicable
	Low Gloss ABS Unit	17947.2	Threaded	Yes	Not applicable
	Low Gloss ABS Unit	18003.2	Threaded	Yes	Not applicable

## ABS Low Gloss

### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	18004.2	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109303	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	109303.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109304.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109305	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109307.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109307.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109308.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109308.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109308.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109309.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109309.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109310	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109311	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109312	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109304.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109304.3	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109307.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109306.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109306.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153700.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153700.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153700.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153700.4	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153701.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153701.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153701.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153701.4	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153703.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153703.2	Flanged - Gasket	Yes	Not applicable

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

Low Gloss ABS Unit	153703.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153705	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	153705.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153705.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	150022	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	150022.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	150022.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153702.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153702.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153702.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153702.4	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153709.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153709.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	153709.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	102220.4	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	17295.2	Threaded	Yes	Not applicable
Low Gloss ABS Unit	17295.21	Threaded	Yes	Not applicable
Low Gloss ABS Unit	18174.6	Threaded	Yes	Not applicable
Low Gloss ABS Unit	18174.7	Threaded	Yes	Not applicable
Low Gloss ABS Unit	41772.1	Threaded	Yes	Not applicable
Low Gloss ABS Unit	41772.2	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109362.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109362.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109361.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109361.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	105465	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	105465.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	105466	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	109889.1	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.3	Threaded	Yes	Not applicable

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Low Gloss ABS Unit	109889.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.5	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.6	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.7	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.8	Threaded	Yes	Not applicable
Low Gloss ABS Unit	109889.9	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154618.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	154618.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	106559.1	Threaded	Yes	Not applicable
Low Gloss ABS Unit	106559.2	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154616.2	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154616.3	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154616.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.5	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.6	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.7	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.8	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.9	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.1	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.11	Threaded	Yes	Not applicable
Low Gloss ABS Unit	153781.12	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154430.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154574	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	154570.3	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	154570.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154572	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	154575.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	154575.3	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154575.4	Threaded	Yes	Not applicable

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Low Gloss ABS Unit	154595.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154597	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	154601	Check valve connection	Yes	Not applicable
Low Gloss ABS Unit	154603.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	154608.4	Threaded	Yes	Not applicable
Low Gloss ABS Unit	150201.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	150201.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	150202.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	18412.1	Threaded	Yes	Not applicable
Low Gloss ABS Unit	108603.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	16980	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	90196.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	3601.6	Threaded	Yes	Not applicable
Low Gloss ABS Unit	90195.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	97963	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	18402.6	Threaded	Yes	Not applicable
Low Gloss ABS Unit	37568	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	37581.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	37581.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	37593.2	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	90195.1	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	97302	Flanged - Gasket	Yes	Not applicable
Low Gloss ABS Unit	97963	Flanged - Gasket	Yes	Not applicable

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

V.G.38	38. Replacing or Improving Connectors.					
V.G.38.a	a. Trigger for Replacement or Improvement Requirements. For each connector that, in any two of three consecutive monitoring periods, has a Screening Value at or above 250 ppm, Dow shall replace or improve the connector in accordance with the applicable replacement or improvement described in Paragraph 36. Dow shall use best efforts to install a replacement or improvement that will be the least likely to leak, using good engineering judgment, for the service, operating conditions, and type of piping or tubing that the connector is in.					
V.G.38.b	b. Timing. If the replacement or improvement does not require a process unit shutdown, Dow shall undertake the replacement or improvement by no later than one month after the monitoring event that triggers the replacement or improvement requirement. If the replacement or improvement requires a process unit shutdown, Dow shall undertake the replacement or improvement during the first Maintenance Shutdown that follows the monitoring event that triggers the requirement to replace or improve the connector, unless Dow documents that insufficient time existed between the monitoring event and the Maintenance Shutdown to enable Dow to secure and install the replacement or improvement. In that case, Dow shall undertake the replacement or improvement at the next Maintenance Shutdown that occurs after Dow's receipt of the necessary materials.					
V.G.38.c	c. Actions Required Pending Replacements or Improvements Pursuant to Subparagraphs 38.a - b.					
V.G.38.c.i	i. Actions Required Pursuant to Subsection E. Dow shall not be required to comply with Subsection E pending replacement or improvement pursuant to Subparagraphs 38.a - b if Dow completes the replacement or improvement by the date that is no later than one month after detecting the leak. If Dow does not complete the replacement or improvement within one month, or if, at the time of the leak detection, Dow reasonably can anticipate that it might not be able to complete the replacement or improvement within one month, Dow shall comply with all applicable requirements of Subsection E.					
V.G.38.c.ii	ii. Actions Required Pursuant to Applicable Regulations. For each connector that has a Screening Value at or above 500 ppm, Dow shall comply with all applicable regulatory requirements, including repair and "delay of repair," pending replacement or improvement pursuant to Subparagraphs 38.a - b.					
Data V.G.38	Covered Process Unit	Connector Tag #	Monitoring Dates and Screening Values (ppm) That Trigger Replacement or Improvement	Date Action Was Taken and Type of Action Taken	Any Actions Not Taken and Why	Schedule for Known Replacements, Improvements, or Eliminations
	Low Gloss ABS Unit	18412.1	8/9/2012 - 1631 ppm 8/19/2013 - 1445 ppm	Maintenance Shutdown Required: Replaced with like kind threaded connector on 3/31/2014 during the first maintenance shutdown after discovering this connector triggered replacement or improvement.	Not Applicable	Not Applicable
	Low Gloss ABS Unit	108603.2	10/25/2012 - 322 ppm 5/14/2013 - 881 ppm	Maintenance Shutdown Required: Replaced flanged connector gasket on 4/5/2014 during the first maintenance shutdown after discovering this connector triggered replacement or improvement.	Not Applicable	Not Applicable

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### Appendix V.G: Valve and Connector Replacement and Improvement Program Report

	Low Gloss ABS Unit	16980	8/15/2013 - 430 ppm 5/9/2014 - 459 ppm	6/6/2014 Replaced flanged connector gasket	Not applicable	Not applicable
	Low Gloss ABS Unit	90196.1	5/14/2013 - 335 ppm 5/21/2014 - 539 ppm	6/4/2014 Replaced flanged connector gasket	Not applicable	Not applicable
	Low Gloss ABS Unit	3601.6	5/13/2013 - 340 ppm 5/27/2014 - 314 ppm	6/4/2014 Replaced with like kind threaded connector elbow	Not applicable	Not applicable
	Low Gloss ABS Unit	90195.1	5/14/2013 - 619 ppm 5/27/2014 - 496 ppm	6/4/2014 Replaced flanged connector gasket	Not applicable	Not applicable
	Low Gloss ABS Unit	107445.4	5/16/2013 - 339 ppm 5/28/2014 - 429 ppm	6/26/2014 Improved threaded connector with Teadit ECOTAPE	Not applicable	Not applicable
	Low Gloss ABS Unit	97963	11/21/2013 - 552 ppm 5/28/2014 - 1319 ppm	6/4/2014 Replaced flanged connector gasket	Not applicable	Not applicable
V.G.39	39. Nothing in Paragraphs 30 - 38 requires Dow to utilize any valve, valve packing technology, or connector that is not appropriate for its intended use in a Covered Process Unit.					
V.G.40	In each Compliance Status Report due under Section VI (Reporting Requirements) of this Decree, Dow shall include a separate section in the Report that: (i) describes the actions it took to comply with this Subsection G, including identifying each piece of equipment that triggered a requirement in Subsection G, the Screening Value for that piece of equipment, the type of action taken (i.e., replacement, repacking, or improvement), and the date when the action was taken; (ii) identifies any required actions that were not taken and explains why; and (iii) identifies the schedule for any known, future replacements, repacking, improvements, or eliminations.					

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

V.G.34	34. Commercial Unavailability of a Low-E Valve or Low-E Packing. Dow shall not be required to utilize a Low-E Valve or Low-E Packing to replace or repack a valve if a Low-E Valve or Low-E Packing is commercially unavailable. The factors relevant to the question of commercial unavailability and the procedures that Dow must follow to assert that a Low-E Valve or Low-E Packing is commercially unavailable are set forth in Appendix A.				
Covered Process Unit	Valve Tag # and/or Description	Valve Type	Size	Manufacturer	Explanation for Commercial Unavailability
Ethocel™ cellulose ethers	77850	Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	DO-416A/ TRUCK SPOT VENT VALVE	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	101411	Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	107130	Threaded Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Ethocel™ cellulose ethers	106229	Ball	1/2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	101354	Threaded Ball	3/4"	Velan	Five rings of low E packing will not fit in this valve. Only full port split body Velan valves are commercially available. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	100402	Ball	4"	BAC	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	Reactor 2 Strahman Valve	Drain	1 1/2"	Strahman	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	99308	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	85458	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

	Ethocel™ cellulose ethers	100777	Threaded Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	100898	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	100853	Threaded Ball	1/2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	106344	Ball	2"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	106345	Ball	2"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	106347	Ball	2"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Ethocel™ cellulose ethers	106395	Ball	2"	Jamesbury	Changed from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	106366	Ball	2"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	106392	Ball	3"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	106368	Ball	3"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	106346	Ball	3"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	106371	Ball	3"	Jamesbury	Changed valve from stainless steel to monel material of construction. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

	Ethocel™ cellulose ethers	108422	Ball	2"	Jamesbury	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	100577	Ball	1"	Jamesbury	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	100952	Dome	10"	Roto Disc	O-rings are used to seal this valve rather than packing. Low emission technology is commercially unavailable for this style valve.
	Ethocel™ cellulose ethers	100401	Ball	4"	BAC	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
	Ethocel™ cellulose ethers	100402	Ball	4"	BAC	Valve repacked with original equipment manufacturer (OEM) packing. Five rings of Low-E packing will not fit. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Ethocel™ cellulose ethers	100377	Butterfly	8"	Jamesbury	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	100347	Ball	6"	BAC	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	108966	Butterfly	8"	Jamesbury	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	100327	Ball	6"	BAC	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	100309	Ball	4"	BAC	Valve repacked with OEM packing. 5 rings of Low-E packing will not fit. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Ethocel™ cellulose ethers	100930	Control	1"	Masoneilan	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	100353	Drain	1.5"	Strahman	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Ethocel™ cellulose ethers	DO 429A truck vent valve	Full Port Ball	2"	Velan	This Velan 2" ball valve was classified as Low E and was installed on 5/15/2014 and 6/26/2014. Valve leaked by internally to the process during both installations. Per email to EPA (sent 5/28/14 and approved on 6/16/14), Dow reclassified this valve as a non-Low E valve due to performance issues.
Ethocel™ cellulose ethers	DO 429A truck vent valve	Full Port Ball	2"	Jamesbury	Non-Low E Jamesbury 2" ball valve was installed on 5/16/2014 and 6/26/2014 after both Velan full port ball valves failed (see above).

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

V.G.34 34. Commercial Unavailability of a Low-E Valve or Low-E Packing. Dow shall not be required to utilize a Low-E Valve or Low-E Packing to replace or repack a valve if a Low-E Valve or Low-E Packing is commercially unavailable. The factors relevant to the question of commercial unavailability and the procedures that Dow must follow to assert that a Low-E Valve or Low-E Packing is commercially unavailable are set forth in Appendix A.

Covered Process Unit	Valve Tag # and/or Description	Valve Type	Size	Manufacturer	Explanation for Commercial Unavailability
Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-107East 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 by PT N:Al-287 top of V-05 East 1" Jamesbury BV(vb150cs111vnr f)	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	15762	Slide	18"	Fabril	Valve repacked with John Crane non-Low E packing. Low-E packing would not fit. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	72248	Ball	1"	BAC	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	16958	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	66494	Control	1/2"	Research	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-106 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-107 east 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	1226 V-107West 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 V-105 2" Jamesbury BV(vb150cs111vnr f)	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	1226 recirc 2"KTMBV(vb150cs 111vnr f)	Ball	2"	KTM	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	16916	Control	1"	Valtek	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	103231	Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	15903	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	103233	Tubing	1/2"	Parker	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	108959	Control	3/4"	Flowserve/Kammer	Valve repacked with OEM packing. Five rings of low-E packing will not fit. See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	17605	Ball	3/4"	Flowserve/Worcester	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	18822	Control	1/2"	Flowserve/Kammer	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	18711	Gate	2"	Neway	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17661	Control	1/2"	Flowserve/Kammer	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17662	Control	1/2"	Flowserve/Kammer	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	106545	Sample	1 1/2"	Strahman	Valve repacked with OEM packing. Five rings of low-E packing will not fit. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17085	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability

**ABS Low Gloss****Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing**

Low Gloss ABS Unit	17294	Ball	1"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17284	Ball	1"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17885	Ball	1/2"	Hoke	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train Condenser Liquid out to receiver Tagged VB300SS711VARF	Ball	3"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train Condenser Vapor line steam connection Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train Condenser Spare 2" nozzle on top Tagged VB- 150SS311VNRF	Ball	2"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	A-Train Partial Condenser Liquid drain line to receiver Tagged VB-150SS311VNRF KTM EB732-32EU-15L/3.0	Ball	3"	KTM	See Appendix: Commercial Unavailability A Low-E valve is commercially available for this service, however due to the long lead time to receive such a valve, it was not available for replacement during the first process shutdown. EPA agreed with Dow (Dow letter sent 2/25/14, EPA response received 3/4/14) that a non-Low E valve could be installed until the next process unit shutdown.
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Outlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Upstream Drain Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Downstream Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 FT Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Outlet Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z4 CV Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Outlet Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Upstream Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Downstream Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 FT Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Outlet Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	A-Train R2 Recycle Z5 CV Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Outlet Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Upstream Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Downstream Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 FT Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Inlet Tagged VB-150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Outlet Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Drain Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	A-Train R2 Recycle Z6 CV Bypass Tagged VB- 150SS311VNRF	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17452	Ball	2"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	102286	Control	1/2"	Research	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	17862	Control	1/2"	Flowserve/Kammer	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	97707	Control	1/2"	Valtek	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train SVT Tank Bottom Drain	Ball	6"	KTM	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001A PI Isolation	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001A PI Drain	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001A Discharge	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001B PI Isolation	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001B PI Drain	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out P- 5001B Discharge	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Drain Above P-5001A/B	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Sampler (Not new - reused)	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Inlet Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Filter By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

**ABS Low Gloss****Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing**

Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Flowmeter By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Control Valve By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 1 Recycle Out Line Drain On By-pass line	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001C PI Isolation	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001A PI Drain	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001A Discharge	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001B PI Isolation	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001B PI Drain	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out P- 5001B Discharge	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain Above P-5001A/B	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Sampler By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle OutSampler	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Inlet Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Filter By-pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Isolation to PI	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Drain to PI	Ball	1/2"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter Outlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Flowmeter By- pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability

## ABS Low Gloss

### Appendix V.G.34 Commercial Unavailability of a Low-E Valve or Low-E Packing

Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Inlet	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve Drain	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	B-Train Devo 2 Recycle Out Control Valve By- pass	Ball	1"	Jamesbury	See Appendix: Commercial Unavailability
Low Gloss ABS Unit	37534	Ball	3/4"	Jamesbury	Five rings of low E packing will not fit in this valve. See Appendix: Commercial Unavailability

## Ethocel™ cellulose ethers

### Appendix V.G.35 Records of Low-E Valves and Low-E Packing

V.G.35 35. Records of Low-E Valves and Low-E Packing. Prior to installing any Low-E Valves or Low-E Packing, or if not possible before installation, then as soon as possible after installation, Dow shall secure from each manufacturer documentation that demonstrates that the proposed valve or packing technology meets the definition of "Low-E Valve" and/or "Low-E Packing." Dow shall make the documentation available upon request.

Covered Process Unit	Valve Tag # and/or Description	Valve Type	Size	Manufacturer
Ethocel™ cellulose ethers	100736	Control	2"	Valtek - repacked with five rings of Chesterton 1724E Low E packing
Ethocel™ cellulose ethers	100227	Full Port Ball	2"	Velan
Ethocel™ cellulose ethers	101525	Full Port Ball	2"	Velan
Ethocel™ cellulose ethers	84912	Full Port Ball	1 1/2"	Velan
Ethocel™ cellulose ethers	101551	Full Port Ball	1 1/2"	Velan
Ethocel™ cellulose ethers	101541	Full Port Ball	2"	Velan
Ethocel™ cellulose ethers	100826	Control	1"	Valtek - repacked with five rings of Chesterton 1724E Low E packing

## ABS Low Gloss

### Appendix V.G.35 Records of Low-E Valves and Low-E Packing

V.G.35

35. Records of Low-E Valves and Low-E Packing. Prior to installing any Low-E Valves or Low-E Packing, or if not possible before installation, then as soon as possible after installation, Dow shall secure from each manufacturer documentation that demonstrates that the proposed valve or packing technology meets the definition of "Low-E Valve" and/or "Low-E Packing." Dow shall make the documentation available upon request.

Covered Process Unit	Valve Tag # and/or Description	Valve Type	Size	Manufacturer
Low Gloss ABS Unit	102220	Gate	1/2"	SWI
Low Gloss ABS Unit	97682	Full Port Ball	1"	Velan
Low Gloss ABS Unit	15597	Full Port Ball	1"	Velan
Low Gloss ABS Unit	3793	Full Port Ball	3"	Velan
Low Gloss ABS Unit	3390	Full Port Ball	2"	Velan
Low Gloss ABS Unit	A-Train Condenser Drain on liquid out line Tagged VG-800SS2BST	Gate	1"	SWI
Low Gloss ABS Unit	16977	Full Port Ball	2"	Velan
Low Gloss ABS Unit	B-Train SVT N Tank PSV Drain	Gate	3/4"	SWI
Low Gloss ABS Unit	B-Train SVT S Tank PSV Drain	Gate	1"	SWI
Low Gloss ABS Unit	15923	Gate	1/2"	SWI